

REMARKS/ARGUMENTS

Claims 1-24 are pending, claims 11-14 and 21-24 having been withdrawn from consideration. By this Amendment, claims 1-10 and 15-20 are amended. Support for the amendments to claims 1-10 and 15-20 can be found, for example, in original claims 1-10 and 15-20. The amendments to claims 1-10 are made solely to improve their clarity. No new matter is added. In view of the foregoing amendments and following remarks, reconsideration and allowance are respectfully requested.

Withdrawn Claims

For the reasons set forth below, Applicants submit that all pending claims presently subject to examination are in condition for allowance. Because withdrawn claims depend from, and thus recite all features of, allowable claims subject to examination, rejoinder and allowance of the withdrawn claims are respectfully requested.

Objection to the Claims

The Office Action objects to claims 7, 15 and 16. By this Amendment, claims 7, 15 and 16 are amended to obviate the objection. Accordingly, reconsideration and withdrawal of the objection are respectfully requested.

Rejection Under 35 U.S.C. §112, Second Paragraph

The Office Action rejects claims 1, 2, 6 and 7 as indefinite under 35 U.S.C. §112, second paragraph. By this Amendment, claims 1, 2, 6 and 7 are amended to obviate the rejection. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Rejections Under 35 U.S.C. §103

A. Nanavati and Wyman

The Office Action rejects claims 1-5, 8-10 and 15-20 under 35 U.S.C. §103(a) over WO 01/66655 to Nanavati ("Nanavati") in view of U.S. Patent No. 5,077,135 to Wyman ("Wyman"). Applicants respectfully traverse the rejection.

Claim 1 recites "[a]n organosilane-based composition for producing a barrier layer for gases, comprising at least one of composition (A), composition (B) and composition (C), wherein: composition (A) comprises: (i) at least one organoalkoxysilane having organofunctionality comprising at least one unsaturated hydrocarbon group; (ii) at least one aminoalkylalkoxysilane; (iii) at least one polyol; (iv) optionally a further alkoxy silane or alkoxysiloxane; (v) optionally at least one nano- or microscale semimetal oxide or metal oxide, semimetal oxide hydroxide or metal oxide hydroxide, or semimetal hydroxide or metal hydroxide; and (vi) an organic solvent; composition (B) comprises at least one cocondensate of component (i), component (ii), component (iii), optionally component (iv) and optionally component (v), and the organic solvent (vi); composition (C) comprises a reaction product produced under hydrolysis conditions of component (i), component (ii), component (iii), optionally component (iv) and optionally component (v), and the organic solvent (vi); and the components of composition (A) and/or the precursors of composition (B) and composition (C) are present such that a molar ratio of component (i) : component (ii) : component (iii) is 1 : 0.5 to 1.5 : 0.3 to 1.1" (emphasis added). Nanavati and Wyman do not disclose or suggest such a composition.

The Office Action relies on Nanavati for its disclosure of a composition for forming a barrier layer including an aminoalkylalkoxysilane and a polyol. *See* Office Action, pages 5 to 6; Nanavati, page 4, lines 7 to 9, page 5, lines 32 to 33. However, the Office Action concedes that the composition of Nanavati does not include an organoalkoxysilane including an

unsaturated hydrocarbon group and that Nanavati does not disclose the molar ratio of components (i), (ii) and (iii) in claim 1. *See* Office Action, page 6.

The Office Action relies on Wyman for its disclosure of a composition for forming a barrier layer including an organoalkoxysilane including an unsaturated hydrocarbon group and an aminoalkylalkoxysilane. *See* Office Action, page 10; Wyman, column 6, lines 59 to 62. However, the Office Action concedes that the composition of Wyman does not include a polyol and that Wyman does not disclose the molar ratio of components (i), (ii) and (iii) in claim 1. *See* Office Action, pages 6 and 10.

The Office Action asserts that it would have been obvious to add the alkenyl organoalkoxysilane of Wyman to the composition of Nanavati, or add the polyol of Nanavati to the composition of Wyman. *See* Office Action, pages 6 and 11. The Office Action further asserts that it would have been obvious to select the molar ratio of components (i), (ii) and (iii) in claim 1. *See* Office Action, pages 6 to 7. Applicants respectfully disagree.

In attempting to make a *prima facie* case of obviousness, the Office Action picks and chooses from the respective compositions of Nanavati and Wyman. In doing so, the Office Action asserts that one of ordinary skill in the art would have been motivated to pick and choose from numerous possible compositions in Nanavati and Wyman to obtain the composition of claim 1. However, the Office Action fails to indicate why one of ordinary skill in the art would have been motivated to do so. It is well-settled that "[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggest the desirability of the combination." MPEP §2143.01.III (citing *In re Mills*, 916 F2d 680 (Fed. Cir. 1990)) (emphasis in original). The only motivation to select the combination of components in claim 1 is found in the present specification – relying on such motivation constitutes impermissible hindsight.

With respect to the molar ratio set forth in claim 1, as is well-settled, a particular parameter must first be recognized as a result-effective variable before the determination of workable ranges can be said to be an obvious variation. *See, e.g.*, MPEP §2144.05.II.B (citing *In re Antonie*, 195 U.S.P.Q. 6 (C.C.P.A. 1977)). The Office Action fails to identify, in any of the cited references, recognition that the molar ratio of components (i), (ii) and (iii) in claim 1 is a result-effective variable. Absent such recognition, one of ordinary skill in the art would not have had a reasonable expectation of success upon manipulating the molar ratio of components (i), (ii) and (iii) to obtain the molar ratio required in claim 1 – one of ordinary skill in the art would not have been motivated to optimize that variable, as asserted by the Office Action.

For the reasons discussed above, a *prima facie* case of obviousness has not been made. However, even if a *prima facie* case were made, such case is rebutted by the results shown in the present specification – "[a] *prima facie* case of obviousness ... is rebuttable by proof that the claimed compounds possess unexpectedly advantageous or superior properties." *See* MPEP §2144.09 (citing *In re Papesch*, 315 F.2d 381 (C.C.P.A. 1963)). The Examples of the present specification demonstrate that compositions that do not include each of components (i), (ii) and (ii) (Comparative Example 1) or that do not include components (i), (ii) and (ii) in the molar ratio required in claim 1 (Comparative Example 2) result in barrier layers with inferior oxygen permeation to barrier layers formed from compositions according to claim 1. *See, e.g.*, present specification, pages 10 to 15. These results are objective evidence of the improvements of the composition of claim 1 over known compositions as in Nanavati and Wyman, and thus these results rebut any suggestion that it would have been obvious to combine the teachings of Nanavati and Wyman as proposed in the Office Action. As explained, claim 1 would not have been rendered obvious by Nanavati and Wyman. Claims 2-5, 8-10 and 15-20 depend from claim 1 and, thus, also would not have

been rendered obvious by Nanavati and Wyman. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

B. Nanavati, Wyman, Ichikawa and Komada

The Office Action rejects claim 6 under 35 U.S.C. §103(a) over Nanavati in view of Wyman, U.S. Patent No. 4,735,832 to Ichikawa et al. ("Ichikawa") and U.S. Patent Application Publication No. US 2001/0038894 to Komada ("Komada"). Applicants respectfully traverse the rejection.

For the reasons discussed above, Nanavati and Wyman fail to disclose or suggest each and every feature of claim 1. Ichikawa and Komada fail to remedy the deficiencies of Nanavati and Wyman. Ichikawa is cited for its alleged disclosure of a barrier layer having low permeability to oxygen and carbon dioxide. *See* Office Action, page 8. Komada is cited for its alleged disclosure of a gas barrier film including tetraethoxysilane. *See* Office Action, page 9. However, Ichikawa and Komada, like Nanavati and Wyman, fail to disclose or suggest a composition including components (i), (ii) and (iii) in the molar ratio required in claim 1. Accordingly, the combination of references fails to disclose or suggest each and every feature of claim 1.

As explained, claim 1 would not have been rendered obvious by Nanavati, Wyman, Ichikawa and Komada. Claim 6 depends from claim 1 and, thus, also would not have been rendered obvious by Nanavati, Wyman, Ichikawa and Komada. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

C. Nanavati, Wyman and Huffer

The Office Action rejects claim 7 under 35 U.S.C. §103(a) over Nanavati in view of Wyman and U.S. Patent Application Publication No. US 2002/0146525 to Huffer et al. ("Huffer"). Applicants respectfully traverse the rejection.

For the reasons discussed above, Nanavati and Wyman fail to disclose or suggest each and every feature of claim 1. Huffer fails to remedy the deficiencies of Nanavati and Wyman. Huffer is cited for its alleged disclosure of a barrier coating including aluminum oxide. *See* Office Action, page 9. However, Huffer, like Nanavati and Wyman, fails to disclose or suggest a composition including components (i), (ii) and (iii) in the molar ratio required in claim 1. Accordingly, the combination of references fails to disclose or suggest each and every feature of claim 1.

As explained, claim 1 would not have been rendered obvious by Nanavati, Wyman and Huffer. Claim 7 depends from claim 1 and, thus, also would not have been rendered obvious by Nanavati, Wyman and Huffer. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

D. Wyman and Nanavati

The Office Action rejects claims 1-5, 8-10 and 15-20 under 35 U.S.C. §103(a) over Wyman in view of Nanavati. Applicants respectfully traverse the rejection.

For the reasons discussed above, Nanavati and Wyman fail to disclose or suggest each and every feature of claim 1.

As explained, claim 1 would not have been rendered obvious by Wyman and Nanavati. Claims 2-5, 8-10 and 15-20 depend from claim 1 and, thus, also would not have been rendered obvious by Wyman and Nanavati. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

E. Wyman, Nanavati, Ichikawa and Komada

The Office Action rejects claim 6 under 35 U.S.C. §103(a) over Wyman in view of Nanavati, U.S. Patent No. 4,735,832 to Ichikawa et al. ("Ichikawa") and U.S. Patent Application Publication No. US 2001/0038894 to Komada ("Komada"). Applicants respectfully traverse the rejection.

For the reasons discussed above, Wyman, Nanavati, Ichikawa and Komada fail to disclose or suggest each and every feature of claim 1.

As explained, claim 1 would not have been rendered obvious by Wyman, Nanavati, Ichikawa and Komada. Claim 6 depends from claim 1 and, thus, also would not have been rendered obvious by Wyman, Nanavati, Ichikawa and Komada. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

F. Wyman, Nanavati and Huffer

The Office Action rejects claim 7 under 35 U.S.C. §103(a) over Wyman in view of Nanavati and U.S. Patent Application Publication No. US 2002/0146525 to Huffer et al. ("Huffer"). Applicants respectfully traverse the rejection.

For the reasons discussed above, Wyman, Nanavati and Huffer fail to disclose or suggest each and every feature of claim 1.

As explained, claim 1 would not have been rendered obvious by Wyman, Nanavati and Huffer. Claim 7 depends from claim 1 and, thus, also would not have been rendered obvious by Wyman, Nanavati and Huffer. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

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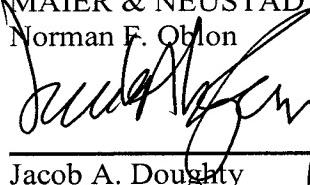
Conclusion

For the foregoing reasons, Applicants submit that claims 1-24 are in condition for allowance. Prompt reconsideration and allowance are respectfully requested.

Respectfully submitted,

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